Pest Update (June 9, 2010)

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John Ball, Forest Health Specialist, Extension Forester

Email: john.ball@sdstate.edu
Phone: 605-688-4737
Samples sent to: John Ball
Horticulture, Forestry, Landscape and Parks
Rm 201, Northern Plains Biostress Lab
North Campus Lane
South Dakota State University
Brookings, SD 57007-0996

Note: samples containing living tissue may only be accepted from South Dakota. Please do not send samples of dying plants or insect from other states. If you live outside of South Dakota and have a question, please send a digital picture of the pest or problem instead.

Available on the net at:
http://sdda.sd.gov/Forestry/Educational-Information/PestAlert-Archives.aspx

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Plant development for the growing season

East River the black locust and Japanese tree lilacs are in full bloom. This is the normal time for these events during the last 10 years so it appears the growing season has caught up to normal (whatever "normal' is for our region).

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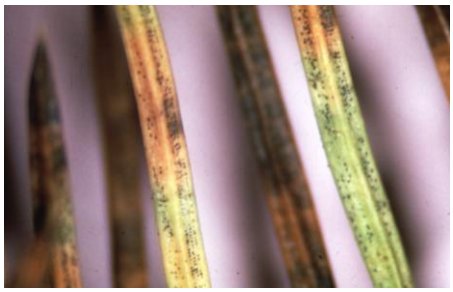
Treatments to do now or very soon

Codling moth treatment time is upon us as the adult moths will be out laying eggs soon. Once the eggs hatch the larvae will burrow into the newly forming apple, usually near the base of the fruit, resulting in a trail through the apple filled with brown, powdery frass. Treatment is usually Malathion applications, though there is much evidence that carbaryl (Sevin) provides better control, beginning about 10 days after petal fall with three more applications spaced about 10 days apart. The other option is **bagging the individual apples** using the Japanese fruit bags when the apples reach about ½-inch diameter. This is no guarantee of control as the fruit may become infested before that size but they do provide reasonable control of this pest and many others as well as improve the shine to the fruit. The bags may be obtained from Gardens Alive! at www.gardensalive.com.

Cottonwood borer treatments can begin soon. The adults will begin to emerge in June to lay eggs at the base of the trunk of young cottonwood trees. This is an unusual insect in that you probably will not see the emergent holes from the adults as they may emerge underground, from the root flare, and burrow up to the soil surface. The adults feed on the leaves – mostly the petiole – resulting in premature leaf drop but the biggest problem is the feeding activity of the larvae. The larvae upon hatching quickly burrow in the lower trunk and roots. The tunneling results in disruption of the movement of food from the leaves to the roots and also reduces the structural strength of the trunk so often the young trees snap off close to the ground. Control is either digging out the larvae with a pocket knife in late August but I doubt many people have that much time on their hands. The easiest and most effective is to treat the lower trunk with a permethrin product anytime between now and the third week of June (note: read the label carefully, not all permethrin products are labeled for borers). In addition

to the cottonwood borer (*Plectrodera scalator*), we also have a poplar borer (*Saperda calcarata*). The primary difference between the two on cottonwoods is that the cottonwood borer attacks young trees and these often break off at the ground, while the poplar borer attacks mature trees and its activity results in stem dieback.



The candles are expanding on the spruce so it is time to apply a fungicide to protect against **rhizosphaera needlecast**. This is one of the most common foliage diseases of blue spruce. The disease causes the older foliage to turn yellow by midsummer and then purplish-brown. Usually small black fruit bodies can be found in the spring lining the stomata along the needles. The disease results in premature needle drop and a thin and discolored canopy. The disease can be managed by an application of chlorothalonil now and a second application in about two weeks.

Pine needle scale control should begin now. This insect appears as a small white, almost tear-drop shaped bump on the needles. It feeds by inserting its beak into the needle and withdrawing sap. The feeding causes yellowing needles and these may also drop prematurely. Heavily infested trees almost appear "flocked" as the foliage looks frosted or silvery from a distance. The insect overwintered as eggs beneath the scale and these are now hatching. The young, called crawlers will move along the needles and eventually settle and develop the hard armor shell. Since pine needle scales are armored scales, they do not produce the sticky honeydew so common with soft scale or aphid infestations. The best control of this insect is an application of horticultural oil in combination with insecticidal soap. This will kill the crawlers but not the beneficial insects, such as lady beetles, that feed on the scales and provide most of the control. Pine needle scale is most common on Austrian and mugo pines as well as many spruce species.

We should be shearing pines now. Pines only set terminal buds, not along the new shoots as do spruce and fir, so the only time to shear them – removal of a portion of the current season's growth - is during the candle phase when the expanding new shoot is still tender. Removal of a portion of the shoot during this time period will still permit the new shoot to set buds. If the pine

is sheared after the new growth has completed expansion and has hardened, no buds will be set and the shoot will dieback after the older needles are shed, usually in a couple of years. Wait until the new needles along the candle are about ½ the size of the older needles and shear then.

Now is also the time to prune out the watersprouts and suckers from your ornamental and fruit trees. Watersprouts are the fast growing, usually upright, shoots that crowd the interior of many crabapples and other fruit trees. The

shoots do not "rob" food away from the tree but they do contribute to interior shading and reduced airflow, two factors that may increase disease problems with fruit and obviously the shoots detract from the appearance of the tree. Suckers are the upright shoots that form near the base of the tree. These originate below the graft so are from the rootstock rather than the cultivar. If allowed to grow they may crowd out the cultivar stem and the tree will have the characteristics of the rootstock – usually poor flowering and fruiting – rather than the desirable characteristics of the cultivar originally purchased. If you prune watersprouts and suckers during the dormant season they sprout back every quickly, pruning now retards their development.

Current concerns

We are seeing more bacterial blight (*Pseudomonas syringae*) on Japanese tree lilac. Initial symptoms of this disease include brown to black, water-soaked spots on the leaves that result in misshapen leaves. The terminals on the shoots also turn a black, droop over and die, symptoms that mimic fireblight. Late frosts can also sometimes produce similar symptoms except the water-soaked spots do not occur – just the blackened leaves and shoots tips. The best control for the disease is to prune out infected shoots (use Lysol Disinfectant on the pruners or hand saw between cuts to avoid transmitting the disease) at this time. The other recommendation is to treat the infected plant with a copper-based fungicide (most other fungicides do not work since the disease is caused by a bacterium, not a fungus) such as Bordeaux mixture just as the buds are expanding in the spring. It is obviously too late for spraying this year but mark the calendar for next year if the plant is showing symptoms now.

The trees are getting a little rusty. We are beginning to see a number of rust diseases appearing across the state at this time of year. One of the most common is crown rust of buckthorn. This rust fungus (*Puccinia coronata*) commonly occurs on buckthorns (*Rhamnus* spp) but may also be found on buffaloberry (*Shepherdia canadensis*). The disease appears on the leaves as orange spots with a raised center. Occasionally the disease will also appear on the shoots. The alternate hosts are grass and cereal crops. There is no recommended control for the disease since the most common host is buckthorn, which is considered a weed in this country.

Another rust disease that shows up at this time of year is ash rust (*Puccinia sparganioides*). This disease results in the yellow spots on the foliage and a swollen and bent petiole. The infected leaves also begin to fall around the end of June. I always receive samples from the Huron, Salem, Mitchell and Sioux Falls, usually just a few trees with some minor defoliation and funny looking leaves. However several years ago there was an outbreak of the disease which resulted in thousands of ash trees across the state not only completely defoliated but suffering branch dieback due to the infection invading the shoots. So far, I have only received a few calls and samples so hopefully this will be a normal year for the disease.

I received this picture of a buckeye leaflet covered with reddish-orange spots. This is buckeye rust (*Puccinia andropogonis*), a different disease than guignardia leaf blotch (*Guignardia aesculi*). The difference between the two is the rust produces circular yellow spots, while the leaf blotch disease creates irregular shaped blotches that begin pale green and turn orange-brown. The buckeye rust alternates between the buckeye and native prairie grasses. The disease is not a serious problem but may result in premature defoliation as well as discolored leaves.

I have received numerous pictures of junipers loaded with the fruiting bodies hanging from every branch. The cooler, wetter weather we have been

having lately has been great for producing these fruiting structures! The galls may result in branch dieback beyond the galls if the infestation is heavy but otherwise we should not see much problem on the junipers. The disease can be controlled on the junipers by applications of fungicides beginning in early July through late August but it can take two years for the galls to form so control one year does not mean the disease will not appear the next. The disease can result in defoliation of the other host, apple and crabapple, and the reddish-orange dots on their leaves, the first symptoms of infection, should begin appearing soon.

E-samples

A cottony psyllid (*Psyllopsis discrepans*) is appearing on black ash throughout eastern South Dakota again this summer. This European insect was introduced into the prairie providences of Canada in 2000 and has been showing up in North and South Dakota during the past several years. The symptoms of attack and the appearance of the insect are similar to the ash leaf curl aphid. The cottony psyllid, however, has been associated with the decline and death of drought-stressed trees, particularly black ash hence it may be a more serious pest than the ash leaf curl aphid. One major difference is the cottony psyllid does not feed on green ash, just black ash and Manchurian ash.

I am also receiving pictures and questions regarding the dieback and decline of several different species of trees, most notable green and black ash. When I examine these trees, many of the shoots and branches are completely dead though the trunk is still alive. Now these trunks are sprouting new shoots along their length and adjadcent to dead branches. The most likely cause for these symptoms is the unusual fall weather we experienced last year. October was abnormally cold, particularly in many West River locations, and young trees

had not hardened off sufficiently to tolerant the cold. You'll notice that much of this type of injury is on the younger trees and those that produced good growth last year.

Samples received

Campbell County **Here are some samples from a shelterbelt north of Mobridge. The trees were not looking too good and the owner was wondering if herbicide might be the problem?**

The hackberry had some minor leaf damage that is similar to what I see every year on these trees and is not a concern. Hackberries often look a little ragged in the spring. The ponderosa pine has diplodia tip blight, a fungal disease that results in the dieback of shoot tips and the attached needles. These often droop and turn ashen-gray before dropping. The disease can be managed, but not eliminated, with timely applications of fungicides in the spring, the first and most important application made as the buds expand so it's too late for this year. The ash are definitely showing symptoms of 2,4-D injury, Ash leaves curl quickly when exposed to any drift of this herbicide but otherwise the trees are fine.

Clay County **What is eating the leaves on these chokecherries? There are holes in all the leaves of Jill's trees?**

This is not due to an insect, but a disease, cherry leaf spot. The disease is caused by a fungus that initially causes purplish spots on the leaf. After about a week the spots turn brown and dry out then soon separate and fall out of the leaf forming these spots. If the leaves are heavily infected, and these are not, then the leaf may turn yellow. The control is an application of a fungicide containing chlorothalonil as the leaves are expanding in the spring. As to the hosta question; these plants are not well-adapted to sunny southern locations and some of the browning may be due to their original planting location, the holes are probably from slugs.

Perkin County **What is the problem with this Colorado blue spruce and Redmond linden?**

The Redmond linden was easy, the very poor growth and dieback is due to have to endure the climate and soils of Lemmon, South Dakota. This is not a good tree for that area and while there are a couple in towns, none look like they want to be there. Mobridge is about as far west as they'll grow (until you get to the Black Hills then they do well again). The same is true of the Colorado blue spruce but instead of the winters being a problem, the hot summers are usually responsible for the poor performance of these trees in your area. Again, I can find some nice spruce in town and even a windbreak or two that are in protected locations but generally Lemmon is not good spruce country. I'd plant either Meyers or Black Hills spruce if they really want a spruce, though ponderosa pine is still your best evergreen for that area.

Union County **What is causing the needles to brown on the ponderosa pine tree? The base of the needles are still green.**

This is dothistroma needle blight, an increasingly common, though hard to diagnose disease of ponderosa pines. The most common symptoms are yellow dots or bands on the needles that eventually brown the upper needle though the base will remain green. There are many other stressors that can produce similar symptoms so identification of the fruiting structure is a key to determining if needle blight is involved. The small black fruiting structures were on the needles. The control is with a copper fungicide applied in mid-May with a second application in late June. The May application is the most important, however, so I would not begin spraying this year.

Yankton County **is this iron chlorosis on Morgan's silver maple tree?**

Yes, we are see this appearing even earlier than most year, perhaps the wet soils in many areas has restricted root development and elemental uptake. Surprisingly having yellow leaves does not really seem to slow the growth much for these trees and most people do not try to correct this problem. The only two solutions are to either lower the soil pH, almost an impossible task considering the lime in our soils, or add a chelated form of iron to the soil. The chelated iron is probably the best approach though there even more effective is micro-infusion of iron into the root flare. The injections are highly effective but the application must be made by a tree care company so the costs will be higher but the results will be better.

What is causing this damage on the elm leaves?

This is the elm leaf beetle. The insect begins feeding by skeletonizing the foliage, feeding on the underside of the leaf but only eating the lower surface and between the veins. The upper leaf surface is left intact. The control is an application of an insecticide containing either carbaryl or permethrin when the leaves have first unfolded – a little late for this year since the damage has already occurred.

What is feeding on this apple foliage?

This looks like the work of ugly-nest caterpillar. They make quite a mess, a truly ugly nest, as they feed inside the nest webbing leaves and insect poop together. The control is carbaryl when you see them moving outside the nest, which should be now.

What is the problem with Liz's spruce tree?

This is rhizosphaera needle cast; see information under what to treat now in this Update.